

WHAT IS CLAIMED IS:

1. A method for manufacturing a biaxially textured pure metal or alloy layer deposited by electroplating process on the surface of a pure metal or alloy substrate having single-crystalline or quasi-single-crystalline orientation, the biaxially textured pure metal or alloy layer being deposited on the surface of the pure metal or alloy substrate having single-crystalline orientation or quasi-single-crystalline orientation using electroplating process such as a direct current electroplating process (DC process), a pulse current electroplating process (PC process) or a periodic reverse current plating process (PR process).

2. The method for manufacturing a biaxially textured pure metal or alloy layer deposited by electroplating process on the surface of a pure metal or alloy substrate having single-crystalline orientation or quasi-single-crystalline orientation according to claim 1, wherein the biaxially textured pure metal or alloy layer is electroplated in a plating solution comprising 100~400g/l nickel sulfate, 0~70g/l nickel chloride, 20~80g/l boric acid, 0~50g/l sodium sulfate, 0~10g/l sodium tungstate and 0~10g/l cobalt chloride at pH 1.5~7 and 50~80°C.

3. The method for manufacturing a biaxially textured pure metal or alloy layer deposited by electroplating process on the surface of a pure metal or alloy substrate having single-crystalline or quasi-single-crystalline orientation according to claim 1 or 2, wherein the biaxially textured pure metal or alloy layer is deposited in the plating solution at a cathode current density of $3\sim 20\text{A}/\text{dm}^2$ using a direct current electroplating process (DC process), the deposited pure metal or alloy layer having a texture fraction (TF) of 0.97 or more on the (001) plane.

4. The method for manufacturing a biaxially textured pure metal or alloy layer deposited by electroplating process on the surface of a pure metal or alloy substrate having single-crystalline orientation or similar orientation according to claim 1 or 2, wherein the biaxially textured pure metal or alloy layer is deposited in the plating solution under conditions of a cathode current density of $3\sim 20\text{A}/\text{dm}^2$, a cathode current time of $1\sim 100\text{msec}$ and a down time of $1\sim 100\text{msec}$ using a pulse current electroplating process (PC process), the deposited pure metal or alloy layer having a texture fraction (TF) of 0.97 or more on the (001) plane.

5. The method for manufacturing a biaxially textured pure metal or alloy layer deposited by electroplating process

on the surface of a pure metal or alloy substrate having single-crystalline orientation or similar orientation according to claim 1 or 2, wherein the biaxially textured pure metal or alloy layer is deposited in the plating solution under conditions of a cathode current density of 3~20A/dm², a cathode current time of 1~100msec and an anode current time of 1~100msec using a periodic reverse current plating process (PR process), the deposited pure metal or alloy layer having a texture fraction (TF) of 0.97 or more on the (001) plane.

6. A biaxially textured pure metal or alloy layer deposited by electroplating process on the surface of a pure metal or alloy substrate having single-crystalline orientation or similar orientation.

7. The biaxially textured pure metal or alloy layer deposited by electroplating process on the surface of a pure metal or alloy substrate having single-crystalline orientation or similar orientation according to claim 6, wherein the biaxially textured pure metal or alloy layer is a cubic crystal texture having a misorientation on the c-axis of 8° or less and a misorientation on the plane formed by the a-axis and b-axis of 15° or less in which the misorientation on the c-axis is determined by a Full Width at Half Maximum of peaks on the θ -rocking curve and the misorientation on the plane

formed by the a-axis and b-axis is determined by a Full Width at Half Maximum of peaks on the Φ -scan.